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Medical Planning for Disaster

Brief Résumé of Accomplishments in California 1950-1959

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AFTER THE INITIAL ATTACK on Korea in June of 1950, disaster preparedness preparations assumed a high priority in California. The governor held a special session on this subject and some of us who were assigned disaster duties by different organizations remained in Sacramento at that time for approximately two weeks to attempt to set up a medical and health plan as well as a radiological defense plan. A special overall planning committee was formed and approximately forty persons were asked to serve on it. Because of a sense of urgency, plans, organization and training were begun as soon as possible.

It was quickly realized that, with the possibility of many targets under attack at one time, not much medical supply and equipment could be counted upon until many hours or days after an attack. It would be necessary to train as many individuals as possible and at least one member of each family in first aid. Estimates would have to be made of hospital facilities and of the number of trained professional personnel and auxiliary professional groups that would be available. Lists had to be made regarding the schools, hotels and other structures that could be used as improvised hospitals, the amount of transportation available, and the medical

• Extensive accumulation and dispersal of medical supplies and equipment has been carried out in this state since 1950. Although such medical supplies and equipment are inadequate for an all out war type disaster their addition to the medical disaster preparedness program represents a great contribution and efforts must be made to continually supplement them.

All hospitals must have a disaster plan which is well understood and which must be tested by actual test exercises at least once each year.

Preparations for major disasters of all types are costly and time-consuming but represent one of the best possible investments which we can make as insurance against the loss of thousands of casualties.

It is the responsibility of each physician to prepare himself and his family in anticipation of being exposed to natural or man-made disasters.

supplies which could be obtained promptly. These were but a few of the many factors which had to be determined well in advance of any major disaster.

The governor appointed the chairman of the California Medical Association Emergency Medical Committee as the chairman of the Governor's Emergency Medical Advisory Committee. This appointment gave the organized medical profession a place in all top-level disaster planning.

As time went by, it was realized that the Governor's Committee was too big. Now there are only

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Chairman, Governor's Emergency Medical Advisory Committee; Chairman, California Medical Association Committee on Disaster Medical Care.

eight regular members and seven consulting members representing medicine, dentistry, nursing, public health, pathology, clinical laboratories, American Red Cross, hospital associations, optometry, osteopathy, and veterinary medical associations.

The California Medical Association Disaster Committee is composed of three physicians, all of whom are members of the Governor's Emergency Medical Advisory Committee—one physician is chairman of both committees and the other two physicians are Medical and Health Service Chiefs of Regions I and II, the two largest regions in the state. Recently, Governor Edmund Brown reappointed all three California Medical Association physicians to this committee.

California has an adequate disaster plan. The Civil Defense Operations Plan for this state consists of a basic plan with 24 annexes and provisions of continuity of government. Annex 13-OP is the Medical and Health plan. The State Department of Public Health becomes the Medical and Health Division, California Disaster Office. The Director of the State Department of Public Health becomes the Chief of the Medical and Health Division.

The medical and health services of regions, sectors, operational areas, counties and cities are staffed by public health and volunteer personnel from the medical profession and allied fields. Detailed organization and functions are outlined for each of the regions.

The State Department of Agriculture assists the Medical and Health Service in the detection and identification of chemical and biological agents.

The Department of Mental Hygiene will also assist the Medical and Health Service in medical care.

Private and quasi-governmental health agencies and organizations will be integrated into the Medical and Health Service operations where agreements and understandings have been established with local governments.

During the past nine years, the Disaster Committee has participated in the following:

- Formulating an overall medical policy and organization.
- Preparing casualty estimates for the target areas on the basis of both the 20 kiloton atomic bomb and the 20 megaton thermonuclear bombs.
- Preparing regional annexes and plans for a coordinated medical and health service throughout the state.
- Preparing estimates of costs of medical supplies and equipment.
- Determining the number of first aid stations for the state.
- Determining the kinds and quantity of supplies for the first aid stations.

- Determining the number of first aid stations for each region.
- Preparing requisitions for supplies and correlating them with the operations of the state purchasing division.
- Determining the number and locations of improvised hospitals.
- Keeping Civil Defense and disaster plans flexible. (They were revised after the detonation of the thermonuclear bomb—for example, 75 per cent of all aid stations were relocated so that they would be on the periphery of expected target areas and all Civil Defense emergency hospitals located approximately 25 to 35 miles from the target area wherever possible.)
- Planning and selecting locations for 130 Civil Defense emergency hospitals.
- Initiating and encouraging immunization programs.
- Deciding the kinds of antibiotics to purchase and a system of rotation.
- Helping the California Disaster Office Medical and Health Division prepare numerous training manuals, covering aid stations, treatment of casualties, improvised hospital organization, etc.
- Procuring training units for aid stations and distributing them to various regions.
- Organizing and conducting training courses.

A medical and health survey has been made by the California Disaster Office to determine the capacity for medical care in the event of a major disaster.

The fullest use of paramedical personnel must be made. They will have to carry the major part of the load. Dentists, veterinarians, nurses with training of all types, dietitians, pharmacists, physiotherapists, medical and x-ray technicians, hospital administrators and others in the medical field are included under the heading of paramedical personnel.

It is well known that all preparations for major disasters of all types are costly, but preparation is one of the best possible protections against the loss of the lives of thousands of casualties.

A study made at the request of the Emergency Medical Advisory Committee by the Medical Health Division revealed that if an enemy attack occurs, we will need 443 aid stations in addition to the 683 already provided. When our committee, some time ago, decided upon 683 aid stations, information about the more powerful megaton weapons was not available. A first aid station can handle 600 patients per day and approximately 1,800 in three days.

In an all-out enemy attack it is not realistic to assume that much if any help or medical aid or evacuation of large numbers of casualties will occur in the first week or two.

A total of one hundred thirty Civil Defense emergency 200-bed hospitals have been delivered and stored in this state.

Some 378,000 blood procurement bottles with an equal number of donor and recipient sets at a total cost of \$113,210 have been distributed and are available for immediate use.

Fifty sanitation units (water chlorinating units) have been purchased and distributed at a total cost of \$35,000.

Large supplies of antibiotics were purchased and these supplies are checked each year for potency. Approximately \$25,000 worth of antibiotics are kept in Sacramento and a system of rotation has been worked out so that as this material is used in prison hospitals it is replaced with newer antibiotics as they are developed. This represents a saving in money to the state and insures that a supply of the latest type of antibiotics will always be on hand.

Of the \$12,000,000 Civil Defense appropriation by the State Legislature (item 362.1) in 1951, \$3,167,000 was for "medical and first aid supplies and equipment . . . provided that \$2,000,000 of this amount shall be available only if matched by a like amount from federal grants."

There was considerable pressure exerted on this committee to buy and stockpile large quantities of blood plasma. Several of us on the committee had seen cases of viral hepatitis develop following its use in World War II and we recommended the purchase of only half the amount originally proposed. This decision resulted in the saving of a large amount of money, and time has proved this decision to be a most valuable one.

No matter how much money is available, it takes considerable time to manufacture medical supplies and make them available. It must be expected that for several months after an attack there will not be adequate production of items vital to disaster medical care and for the continuing medical care of the surviving population. For normal consumption, drug stores have supplies on hand for only ten days and many manufacturers have only thirty days' supplies available. Even if the supplies were available, delivery might be impossible in the immediate post-attack period.

Since 1951 very little money has been made available for medical and health services for disaster care, and even the small amount budgeted has been largely for the purchase of surplus items for training purposes.

TEST EXERCISES

This committee is most interested in seeing that all hospitals have a disaster plan which is well understood and which has been actually tested at least

once each year. The only plan of any value is one that is understood by all key individuals and one that has been thoroughly tested.

Short of having a disaster, there is nothing better to stimulate interest in disaster preparedness and to show up existing defects than a good test exercise.

Three test exercises have been held in the Alameda-Contra Costa area. In the first one, in October, 1956, one hospital participated. A second test, in April, 1957, involved five hospitals. Then in June, 1958, 24 hospitals and 3,000 persons took part in the exercise.

Similar test exercises should be held in strategic areas all over California. With stress placed on preparations for nonmilitary disasters, greater public interest could be aroused by the use of Boy Scouts, high school students and many other representatives of the population for special assignments. Placing enthusiastic persons in key positions will do much to lessen public apathy.

Seldom nowadays do we use the term *Civil Defense*. Instead we speak of medical disaster care or disaster preparedness. Civil Defense excites little interest, but nonmilitary disasters such as floods, earthquakes, plane crashes, fires and train wrecks occur often enough to make the possibility real. The flood in California in December, 1955, was the greatest disaster of its kind that ever occurred in this state. There were 64 deaths attributable to flood conditions, and the financial loss was estimated at \$200,000,000 for "direct flood losses" alone by the California Division of Water Resources.

The director of the California Disaster Office, Mr. Harold G. Robinson, has reported that since 1955 the California Disaster Office has obtained financial assistance for local government following natural disaster emergencies totalling \$9,420,000:

Floods of 1955-56.....	\$7,463,922
Malibu Fire, 1958.....	100,000
Floods of 1958.....	1,859,538

With continued assured growth of California, natural disasters will always be a big problem and we must be prepared for them.

In February of 1960 at the Annual Session of the California Medical Association a scientific session was entirely devoted to disaster medical care. Representatives from the federal, state and local governments as well as paramedical groups participated.

Medical schools are teaching disaster medical care as part of the medical students' education.

Being prepared for disasters will have to be part of our way of life from now on. Self-help and mutual aid form the basic tenets of our planning and organization.

Much remains to be done.

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